

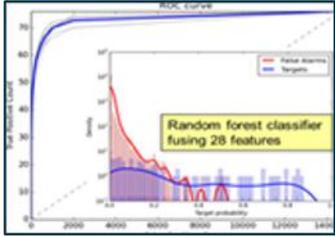
IARPA SINTRA Proposer's Day Multi-Phenomenology Debris Detection and Tracking

2022/08/10

Dr. Anne Hillegas, River Reger, Dr. Timothy Klein, Dr. Jim Plank,
Dr. Christine Hartzell, Craig Baker, Erik Engebret

Unclassified

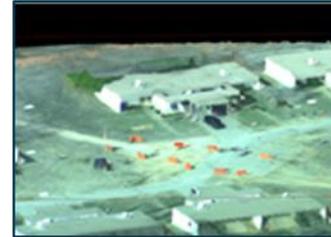
Arete Capabilities Overview



Artificial Intelligence



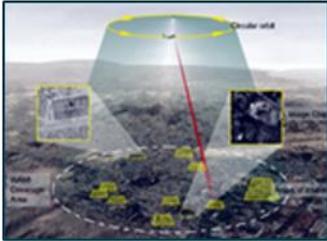
Low Size, Weight, Power Sensors



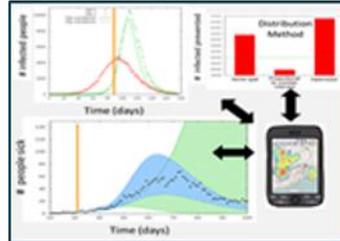
Real-Time Processing



Remote Sensing



Deep Analytics



Networked Surveillance



Weak Signals Intelligence Applications



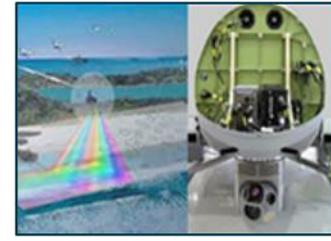
Models and Simulation



Field Tests & Measurements



Rapid Prototyping



System Integration



Production



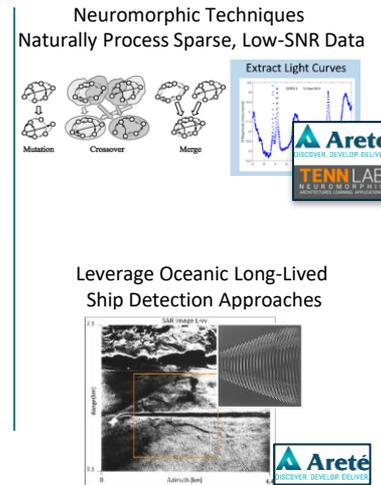
Teammates:

- **Areté:** Wake classification, multisensor probabilistic fusion, detection processing and integrator
- **University of Maryland:** Debris plasma soliton wake signature modeling and detector
- **University of Tennessee:** Neuromorphic detector and processing
- **York Space Systems:** Satellite payload packaging, launch and operations
- **Spire Global:** Ionosphere EM background data measurements

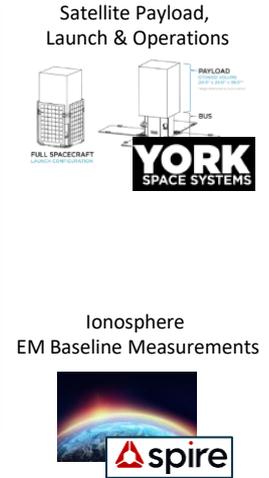
Phenomenology



Detection Approach



Experimental Space Based Validation



- We are looking for other partners who can make our team and solution stronger.
- Specifically looking for teams with the following capabilities:
 - Unique sensor capabilities (i.e., applicable to signal phenomenology)
 - Advanced processing capabilities
 - Operational User Interface (UI)
- Contact:
 - River Reger (rreger@arete.com, PM)
 - Dr. Timothy Klein (tklein@arete.com, PI)



An aerial view of Earth from space, showing a coastline with a large bay and surrounding land. The text "THANK YOU" is overlaid in white, bold, sans-serif font in the center of the image.

THANK YOU